THIRD TERM
WEEKLY LESSON NOTES
WEEK 6

Week Ending: 04-08-2023	**DAY:**	**Subject:** Mathematics	
Duration: 60MINS		**Strand:** Algebra	
Class: B8	**Class Size:**	**Sub Strand:** Linear Inequalities	
Content Standard: B8.2.3.1 Demonstrate an understanding of linear inequalities of the form x + a ≥ b. by modelling problems as a linear inequalities and solving the problems concretely, pictorially, and symbolically.	**Indicator:** B8.2.3.1.3 Determine solution sets of simple linear inequalities in given domains	**Lesson:** 1 of 2	
Performance Indicator: Learners can determine solution sets of simple linear inequalities in given domains.	**Core Competencies:** Communication and Collaboration (CC) Critical Thinking and Problem solving (CP)		
References: Mathematics Curriculum Pg. 123			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Revise with learners on the previous lesson. Review the symbols used in inequalities, such as < (less than), > (greater than), ≤ (less than or equal to), and ≥ (greater than or equal to). Share performance indicators with learners and introduce the lesson.	
PHASE 2: **NEW LEARNING**	Display a few examples of simple linear inequalities on the chalkboard. Discuss the meaning of each symbol and how it represents the relationship between two quantities. Emphasize that the solution to a linear inequality is a set of values that make the inequality true. Provide simple linear inequalities and ask learners to identify the solution sets. Write some examples with linear inequality problems on the board. E.g.1 Find solution sets for the following linear inequalities. i. If x < 4 for whole numbers, then the domain is whole numbers and the solution set. = {0, 1, 2, 3} Learners in pairs solve each inequality by isolating the variable on one side. Review the concept of a solution set as the set of values that satisfy the inequality.	Counters, bundle and loose straws base ten cut square, Bundle of sticks

	Let learners identify the range of values that make the inequality true and write the solution set. Emphasize the use of appropriate notation, such as interval notation or set notation, to represent the solution set. Provide additional practice problems for learners to determine solution sets independently or in pairs. Example 1: Solve the inequality: $3x + 5 < 10$ Solution: Subtracting 5 from both sides: $3x < 5$ Dividing both sides by 3: $x < 5/3$ The solution set is $\{x:x < 5/3\}$ Example 2: Solve the inequality: $-2x + 7 \geq 1$ Solution: Subtracting 7 from both sides: $-2x \geq -6$ Dividing both sides by -2 (note the change in the direction of the inequality): $x \leq 3$ The solution set is $\{x:x \leq 3\}$. Example 3: Solve the inequality: $2 - 4x > -6$ Solution: Subtracting 2 from both sides: $-4x > -8$ Dividing both sides by -4 (note the change in the direction of the inequality): $x < 2$ The solution set is $\{x:x < 2\}$. Example 4: Solve the inequality: $3x - 4 \leq 5$ Solution: Adding 4 to both sides: $3x \leq 9$ Dividing both sides by 3: $x \leq 3$ The solution set is $\{x:x \leq 3\}$. Example 5: Solve the inequality: $2x + 3 > 7$ Solution: Subtracting 3 from both sides: $2x > 4$ Dividing both sides by 2: $x > 2$ The solution set is $\{x:x > 2\}$.	
PHASE 3: **REFLECTION**	Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.	

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Content Standard: B8.2.3.1 Demonstrate an understanding of linear inequalities of the form x + a ≥ b. by modelling problems as a linear inequalities and solving the problems concretely, pictorially, and symbolically.	**Indicator:** B8.2.3.1.3 Determine solution sets of simple linear inequalities in given domains	**Lesson:** 2 of 2

Performance Indicator: Learners can determine solution sets of simple linear inequalities in given domains.	**Core Competencies:** Communication and Collaboration (CC) Critical Thinking and Problem solving (CP)
References: Mathematics Curriculum Pg. 123	

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Revise with learners on the previous lesson. Share performance indicators with learners and introduce the lesson.	
PHASE 2: **NEW LEARNING**	Divide students into pairs or small groups and provide them with a set of linear inequalities to solve. Encourage discussion and collaboration to reach a consensus on the solution sets. Have each group present their findings to the class, allowing for comparisons and discussions on different approaches or strategies used. Example 1: Solve the inequality: $3x + 2 > 5x - 4$ Solution: Subtract 3x and add 4 to both sides: $6 > 2x$ Divide by 2: $3 > x$ The truth set is $\{x : x < 3\}$. Example 2: Solve the inequality: $2(x - 3) \leq 5 - 3x$ Solution: Distribute on the left side: $2x - 6 \leq 5 - 3x$ Add 3x and 6 to both sides: $5x \leq 11$ Divide by 5: $x \leq 2.2$ The truth set is $\{x : x \leq 2.2\}$. Example 3: Solve the inequality: $4x + 3 > 2(x + 1) + 5$ Solution: Distribute on the right side: $4x + 3 > 2x + 2 + 5$ Combine like terms: $4x + 3 > 2x + 7$ Subtract 2x and 3 from both sides: $2x > 4$ Divide by 2: $x > 2$	Counters, bundle and loose straws base ten cut square, Bundle of sticks

	The truth set is {x : x > 2}. Example 4: Solve the inequality: 2x + 3 ≤ 5 - (x + 1) Solution: Distribute and simplify on the right side: 2x + 3 ≤ 5 - x - 1 Combine like terms: 2x + 3 ≤ 4 - x Add x and subtract 3 from both sides: 3x ≤ 1 Divide by 3: x ≤ 1/3 The truth set is {x : x ≤ 1/3}. Example 5: Solve the inequality: 3(x + 2) + 4 > 2(2x - 1) + 1 Solution: Distribute on both sides: 3x + 6 + 4 > 4x - 2 + 1 Combine like terms: 3x + 10 > 4x - 1 Subtract 3x and add 1 to both sides: 11 > x The truth set is {x : x < 11}. Example 6: Solve the inequality: 3(x - 4) - 2(2x + 1) < 2(x + 3) - 5 Solution: Distribute on both sides: 3x - 12 - 4x - 2 < 2x + 6 - 5 Combine like terms: -x - 14 < 2x + 1 Add x and subtract 1 from both sides: -15 < 3x Divide by 3 (reversing the inequality sign since dividing by a negative number): x > -5 The truth set is {x : x > -5}.	
PHASE 3: **REFLECTION**	Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.	